



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/945,515	08/30/2001	Burton Wright	303.745US1	2657

21186 7590 04/19/2005

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
P.O. BOX 2938
MINNEAPOLIS, MN 55402

EXAMINER

KASSA, YOSEF

ART UNIT PAPER NUMBER

2625

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/945,515

Applicant(s)

WRIGHT, BURTON

Examiner

YOSEF KASSA

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 and 37-75 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3,6-9,16,21,26,35,37-50,56-72 and 73-75 is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,7,9,10,12-15,17-20,22-25,27-34 and 51-55 is/are rejected.
- 7) ☒ Claim(s) 11 and 52 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Response to Arguments

1. Applicant's arguments see the remark on page 15-20, filed on Oct. 18, 2004, with respect to rejection(s) of claims 1-48 and 50-55 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made on Sakamoto (U.S. Patent 6,157,414), and further in view of Malinowski et al (U.S. Patent 5,574,572).

Abstract Objection

2. The abstract is objected to because of the following informalities: The abstract should be in narrative form and generally limited to a **single paragraph** on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4, 5, 12-15, 17-20, 22-25, 27-34 and 41, 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakamoto (U.S. Patent 6,157,414), and further in view of Malinowski et al (U.S. Patent 5,574,572).

With regard to claim 1, Sakamoto discloses an interpolation filter (see Fig. 4, item 6, perform filtering the enlarged/reduced image also see col. 4, lines 50-55), wherein the interpolation filter is to upscale the source image to an intermediate image (see col. 4, lines 44-51, broadly reads on the image input 1 of Fig. 5, is enlarge or reduce according to the necessary information read from buffer 5 of Fig. 5), wherein the intermediate image has a size equal to a size of the destination image (note that the process of making the output image almost the same level of the outputted image by enlarge or reducing of an image using an interpolation see abstract); and a first average filter (low pass filter) to downscale the intermediate image to the destination image (see col. 4, lines 51-62).

Sakamoto does not disclose expressly image adjusted by a scale factor. However, in the same field of endeavor, Malinowski teaches this feature (see col. 3, lines 25-33 and col. 4, lines 25-37). At the time of the invention was made, it would have been obvious to a person an ordinary skill in the art to incorporate the teaching of Malinowski's image scaling system into Sakamoto's system. The suggestion/motivation for doing so is to provide up-scaling interpolator uses an up-scaling factor so that the desire scaling of the image may be achieved (see col. 3, lines 26-36).

Claim 2 is similarly analyzed and rejected same as claim 1. As to the additional limitation of average horizontally the intermediate image on a two-by-two pixel basis. However, in the same field of endeavor, Malinowski teaches this feature (see col. 3, lines 47-51 and also

Art Unit: 2625

see Fig. 7). It would have been obvious to a person an ordinary skill in the art to incorporate the teaching of Malinowski's image scaling system into Sakamoto's system. The suggestion/motivation for doing so is to provide interpolating vertical and horizontal direction to restoring image information.

Claims 4 and 19 are similarly analyzed and rejected same as claim 2.

Claim 5, 10, 15 are similarly analyzed and rejected same as claim 1.

Claims 17, 18 are similarly analyzed and rejected same as claim 13.

Claim 20 is similarly analyzed and rejected same as claim 1. As to the additional limitation of a processor and a storage device (see Fig. 5, item 12 microprocessor and item 4 and 5 buffer and memory).

Claims 22, 23 and 24 are similarly analyzed and rejected same as claims 13 and 14.

Claim 25 is similarly analyzed and rejected same as claim 1. As to the additional limitation of a display device (see Fig. 5, item 11 computer comprises display device).

Claims 27 and 28 are similarly analyzed and rejected same as claims 13 and 14.

Claims 12 and 29 are similarly analyzed and rejected same as claim 2.

Claim 30 is similarly analyzed and rejected same as claim 1.

Claims 31, 32 and 33 are similarly analyzed and rejected same as claims 13 and 14.

Claims 19 and 34 are similarly analyzed and rejected same as claim 2.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10, 12, 51 and 53-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakamoto (U.S. Patent 6,157,414), and further in view of Tse et al (U.S. Patent 5,473,342).

Claim 10 is similarly analyzed as claim 1. Except the additional limitation of a graphics card is not taught by Sakamoto. However, in the same field of endeavor, Tse et al teaches this feature (see Fig. 1, item 30). At the time of the invention was made, It would have been obvious to incorporate the teaching of Tse et al resolution of display image processing system into Sakamoto's system. The motivation for doing so is to provide the process of adjusting the output pixel rate to match the pixel by pixel base.

With regard to claim 13, Sakamoto discloses wherein the scale factor is based on a height (vertical) of the destination image (see col. 2, lines 47-51).

With regard to claim 14, Sakamoto discloses wherein the scale factor is based on a width (horizontal) of the destination image (see col. 2, lines 47-51).

Claim 12 and 55 are similarly analyzed and rejected same as claim 2.

Claim 51 is similarly analyzed and rejected same as claims 1 and 10.

Claims 53 and 54 are similarly analyzed and rejected same as claims 13 and 14.

Allowable Subject Matter

4. Claim 3, 6-9, 16, 21, 26, 35, 37-50, 56-72 and 73-75 are allowed.

The following is an examiner's statement of reasons for allowance. The closest prior art of record failed to teach or suggest, a plurality of cascaded horizontal average filters to average horizontally the intermediate image on a two-by-two pixel basis, a line buffer to store output from the plurality of cascaded horizontal average filters, a plurality of cascaded vertical average filters to average vertically the intermediate image on a two-by-two pixel basis, and a selector to deliver an output of the plurality of cascaded horizontal average filters to both the line buffer and the plurality of cascaded vertical average filters (claims 3, 6, 16, 21 and 26); an averaging filter to downscale the intermediate bitmap to the destination bitmap, storage for storing a pixel from the intermediate bitmap, shifter logic to shift color components of the intermediate bitmap, and adder logic to add the color components of the intermediate bitmap (claims 35, 40, 41 and 45-51). Therefore, in combination with all other limitations claims 3, 6-9, 16, 21, 26, 35, 37-50, 56-70 and 73-75 are allowable.

4. Claims 11 and 52 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Other Prior Art Cited

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent No. (6510254) to Nakami et al discloses method and apparatus for image data interpolation...

US Patent No. (5327257) to Hrytzak et al discloses method and apparatus for adaptively interpolating...

US Patent No. (5905822) to Ito et al discloses interpolating operation method and apparatus...

US Patent No. (6016164) to Kawaguchi discloses image signal interpolating apparatus.

US Patent No. (6757431) to Loce et al discloses resolution conversion for anti aliased image...

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOSEF KASSA whose telephone number is (703) 306-5918. The examiner can normally be reached on Monday-Thursday from 8:00 AM to 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, BHAVESH MEHTA can be reached on (703) 308-5246. The fax phone numbers for the organization where this application or proceeding is assigned is (703) 872-9306 for regular communication and (703) 872-9306 for after Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

Art Unit: 2625

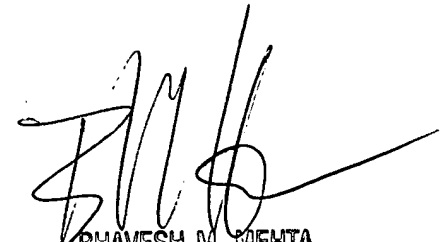
For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PATENT EXAMINER

Yosef Kassa



04/14/05.



BHAVESH M. MEHTA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600